REMARKS

The amendments to the specification correct typographical errors.

The amendments to claims 1 and 4 are supported by Figure 3. Claim 9 is supported by Figure 3, and the specification, page 8, second paragraph. Claim 10 is supported by claim 4. Claim 11 is supported by the specification, page 10, second full paragraph. Claims 12-13 are supported by the background section. No new matter has been added.

In the manufacture of integrated circuits, patterns in photoresist layers are produced by exposing the photoresist through a mask or reticle. The image of the mask produced on the photoresist, is distorted due to, for example, light refraction effect. These effects may be simulated, allowing the mask to be adjusted (for example, by the inclusion of serifs), so that the pattern produced on the photoresist more closely corresponds with the desired layerout. This process, however, assumes that the mask itself is an ideal reproduction of the drawn patter or layout. But the mask making process is similar to the process used to form photoresist patterns, and therefore the actual mask will also be distorted from the drawn layout.

The present invention includes simulating a mask, from a drawn layout. By examining this simulated mask, especially when the simulation takes into account proximity effects and resolution due to pixel size, the drawn layout may be adjusted to produce a mask that will give a more accurate photoesist pattern.

The rejection of the claims under 35 U.S.C. 102 and 103, over Chang et al., alone or in combination with Pati, is respectfully traversed. Chang et al. simulate photoresist patterns (i.e. the image produced from a mask), but do not produce a simulated mask from a drawn layout.

Chang et al. describe a design rule checking system and method. Described is that a mask pattern may be adjusted to compensate for distortions (from, for example, proximity effects) in the image produced on a photoresist (see, for example, col. 3, lines 35-43 and col. 4, lines 30-47). These procedures begin with an original mask design that is the ideal layout (col. 4, lines 34-38). The mask design is then adjusted to minimize the distortion in the photoresist pattern. However, there is no discussion about, nor suggestion that, the mask itself is not the same as the ideal layout; there is no suggestion to adjust the drawn layout of the mask to take into account distortions from the mask making process. Please note, that although this reference does mention simulating the mask, inspection of the context in which this phrase is used clearly

indicates that it is the image produced from the mask which is simulated, not the mask itself from the drawn layout.

Pati has been cited for elements in dependent claims. There is no suggestion to adjust the drawn layout of the mask to take into account distortions from the mask making process.

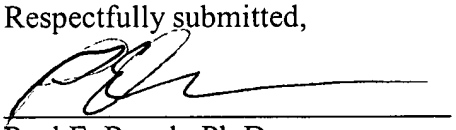
The present invention includes simulating a mask from a drawn layout. This allows distortions from the mask making process to be taken into account, and these distortions minimized by adjusting the drawn layout of the mask. The applied references never suggest such simulation and correction -- they assume that the actual mask is an ideal reproduction of the drawn layout. The claimed invention is neither anticipated by, nor obvious over, the applied references. Withdrawal of these grounds of rejection are respectfully requested.

Applicants submit that the title is descriptive. The claimed invention, by improving the reproduction of patterns in photoresists, through simulation of the mask, does improve the predictability of photoresist patterns, and can be used to improved the reliability of photoresist patterns. However, if the examiner insists, applicants will agree to change the title of the application.

The objections to the specification have been corrected.

Applicants submit that the application is now in condition for allowance. Early notice of such action is respectfully requested.

Respectfully submitted,



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